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Appeal Brief Transmittal

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Inventor	Thomas G. Anderson	Paper:	
Serial number:	10/801,756	Group:	2174
Filed:	03/16/2004	Examiner:	Parker, Brandon
Title:	Human-Computer Interface Incorporating Personal and Application Domains		

Mail Stop Appeal Brief-Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

Appeal Brief

Applicant submits herewith a Reply Brief under 37 CFR 41.41. An Examiner's Answer was mailed May 9, 2008. Consequently, this Reply Brief is filed within two months of the Examiner's Answer.

Conclusion

Applicant has responded to each and every rejection and urges that the Claims as presented are in condition for allowance. Applicant requests expeditious processing to issuance.

Respectfully submitted,

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May 23, 2008
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I hereby certify that this paper (along with any referred to as being attached or enclosed) is being deposited on the date shown below with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Mail Stop Appeal Brief-Patents, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

May 23, 2008
date

V. Gerald Grafe
name

Reply Brief

Applicant's name	Thomas G. Anderson
Filing Date of the Application	03/16/2004
Title of the Invention	Human-computer interface incorporating personal and application domains
Serial Number	10/801,756
Name of the Examiner	Parker, Brandon
Art Unit of the Examiner	2174

Status of Claims.

Claims 1-15 are pending. Claims 1-15 all stand rejected, and are all being appealed.

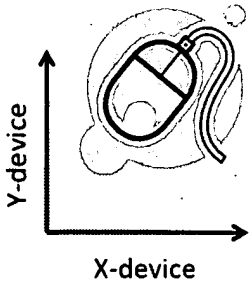
Ground of Rejection to be Reviewed on Appeal.

Whether Claims 1-15 are anticipated under 35 U.S.C. 102(b) by U.S. Patent 6,054,989 ("*Robertson*"). Several of Claims 1-15 are argued separately below.

Argument Relative to the Single Ground of Rejection, in Reply to the Examiner's Answer.

Claim 1.

Appellant maintains that Claim 1 is allowable for the reasons stated in the Appeal Brief, and believes that the Examiner's Answer highlights significant differences between the claimed invention and the teaching of *Robertson*. The Examiner's Answer continues to confuse (a) three dimensions within a simulated space represented in a display and (b) three dimensions within the physical space of an input device. *See, e.g.*, Answer page 3 last paragraph, where the Answer equates "z-coordinates", "z-device", and "z-display". Contrary to the Examiner's assertion, however, dimensions in the physical world are **not** the same as dimensions in a simulated space: the physical input device three dimensional space is a separate space from a simulated space represented in the display. In *Robertson*, as admitted by the Answer, an input device that is moveable in only **two dimensions** (e.g., a computer mouse moving on a surface) is used to drag documents in an X-Y plane in the display, and to push and pull documents in the Z-dimension of a three-dimensional display. These two separate spaces in *Robertson* are illustrated below.



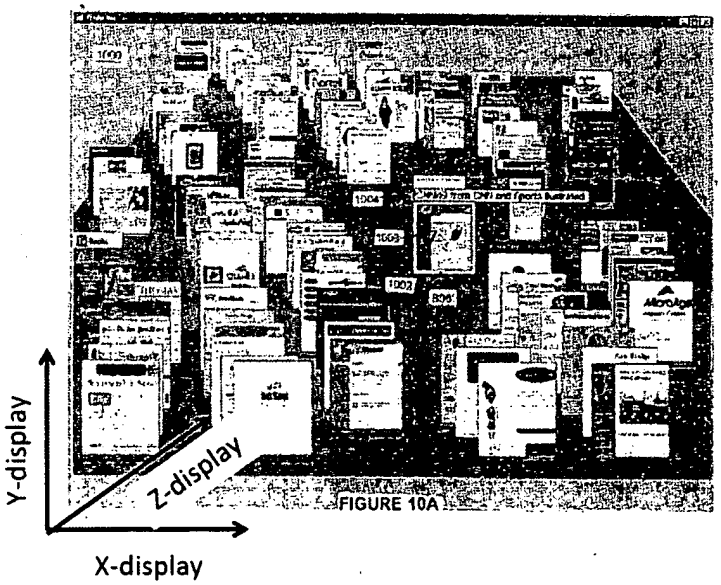
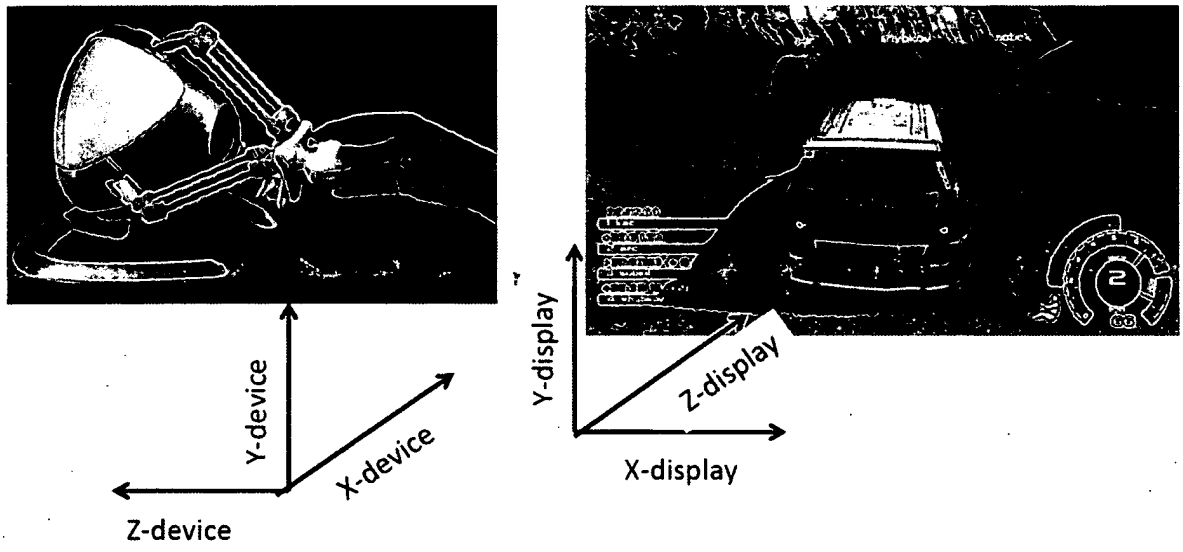


FIGURE 10A

In contrast, Claim 1 is limited to a method using an input device moveable in **three** dimensions, denoted x-device, y-device, and z-device, which method is responsive to motion of the input device in all three dimensions. These two separate spaces are illustrated below.



Robertson teaches three dimensions in a simulated space, controlled by an input device moveable in only **two** physical dimensions. Claim 1 concerns a method that has three dimensions in a simulated space, controlled by an input device moveable in **three** physical dimensions. The Answer, on page 7 second paragraph, asserts that there is "no difference between *Robertson's* three dimensional movements and the applicant's range of motion in three dimensions." The Examiner is comparing apples to oranges – as admitted by the Examiner in the same paragraph, *Robertson's* only teaching of three dimensional movement is of simulated movements within a display space, mapped from movements of a mouse in two physical dimensions. Claim 1 is limited to an input device that is moveable in three physical dimensions, in the real, physical world, and not just simulated movements within a display space.

The Answer goes on to state that "the claim does not state a physical dimension." Appellant traverses this assertion: Claim 1 recites "an input device having a range of motion in three dimensions, denoted the x-device dimension, the y-device dimension, and the z-device

dimension". An input device exists in the physical world, and is moveable within the physical world, and Claim 1 recites that the input device is moveable in three dimensions of the physical world, which three dimensional movement is then used by the method of the claimed invention to control the user interaction with a simulated space. The Answer, on page 8, asserts that "Robertson's input device is indeed a device with a physical range of motion in two dimensions", which assertion is correct and highlights a key difference between *Robertson's* teaching and the invention of Claim 1. The Answer, also on page 8, quotes from Appellant's specification describing an input device moveable in three dimensions, then asserts that "it does not seem that the input device... has 3-D physical motions," in complete disregard with the teaching just quoted.

The present invention's accommodation of input from a device moveable in three physical dimensions provides important advantages over input from devices moveable in two dimensions, as taught in *Robertson*. The present invention allows intuitive three dimensional control, rather than requiring some separate control paradigm that is maps two dimensional device motion to three dimensional control. As an example, with the present invention a user can interact with the controls of a simulated car in one interface domain, including moving within the simulated interior of the car, and then leave the car by just moving the input device such that a simulated cursor pops through the windshield of the car. As another example, a user can interact with a virtual sculpted object in one domain, and then switch to a tool or properties interaction mode by just moving the input device such that a simulated cursor pops away from the workbench and into a toolbox. Two dimensional input devices such as in *Robertson* would require some keystroke or sequence to accomplish such a switch, breaking the intuitive paradigm and reducing the user's efficiency.

The Answer also states that Claim 1 does not disclose "changing the interface characteristics." Appellant traverses this assertion: Claim 1 elements c and d recite two domains each with its

own interface characteristics, elements e and f recite methods of changing between those two domains. Changing between domains with different interface characteristics inherently changes the applicable interface characteristics.

The Answer on page 8 also quotes from Appellant's specification a teaching of control based on motion of a cursor within the display space, and asserts that *Robertson* teaches such a control. The Examiner's statement is not relevant to the present claims, however, since the present claims have additional limits not in *Robertson* and not in the limited teaching quoted by the Examiner.

Claims 2, 5, and 9-15.

Appellant maintains that Claims 2, 5, and 9-15 are allowable for the reasons stated in the Appeal Brief, and believes that the Examiner's Answer highlights significant differences between the claimed invention and the teaching of *Robertson*. The Answer on page 8 asserts that *Robertson* teaches mapping of two-dimensional input device motion to three-dimensional simulated operations (e.g., dragging documents). However, the claims do not recite control of application interfaces based on mapped movements of an input device moving in **two** physical dimensions; rather, they are limited to control of application interfaces based on motion of an input device moving in **three** physical dimensions.

The Examiner also repeatedly equates motion in physical dimensions with motion in the simulated space. For example, on page 5 of the Answer, the Examiner attempts to define a virtual location in terms of x-device, y-device, and z-device dimensions. As discussed above, the –device dimensions are dimensions in the real, physical world; using them to define a virtual location in a simulated environment is meaningless.

Claims 13, 14, 15

While these claims were not separately argued in the Brief, the Answer makes an argument relative to these claims that is incorrect. The Examiner cites changing size of objects within a display as equivalent to different interface domains having different relative sizes. The Examiner has again confused two fundamentally dissimilar concepts: objects within a domain or simulated space, and the domain itself. As objects are dragged within a simulated space, their apparent size may change. However, Claims 13-15 concern relative sizes of domains, or simulated spaces. Objects can move within those spaces, and change apparent size, but that is fundamentally different from the relative sizes of the spaces themselves.